

Message

From: Lam.H.Leung-1@chemours.com [Lam.H.Leung-1@chemours.com]
Sent: 4/15/2015 3:12:47 AM
To: Strynar, Mark [strynar.mark@epa.gov]
Subject: RE: Catching Up and Fluoros 2015
Attachments: image011.emz; image013.emz; image015.emz; image017.emz

Hi Mark,

Thank you for your message and based on the data you've shown below, I totally agree that the linear structure is the "correct" structure. So I can only guess that you had a productive visit with Chris Higgins at Colorado! I was quite impressed with one of his students' presentations at SETAC on non-targeted analysis and it seems to me that his group is doing some very interesting work out there and I'm sorry to hear that you will not be attending FLUOROS but I'm certain that

Ex. 6 Personal Privacy (PP)

So may I request for you to share with me the manuscript when it's accepted for publication if that's possible?

As for the Method 537, I'm in total agreement with you about the validity of this method when it comes to other water samples. However, I don't recall there's a study out there that reported the issues with the SDVB SPE column when it comes to water samples other than drinking water samples and I'd appreciate it if you can bring that to my attention. I had proposed similar study in the past and due to budgetary and other reasons, we never got this off the ground.

Anyway, I look forward to seeing your paper out there!

Best Regards,
Lam

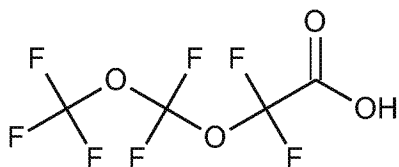
From: Strynar, Mark [mailto:Strynar.Mark@epa.gov]
Sent: Tuesday, April 14, 2015 9:24 AM
To: LEUNG, LAM-WING H
Subject: RE: Catching Up and Fluoros 2015

Hi Lam,

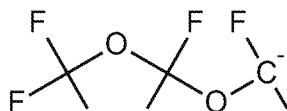
As it turns out I will now not be going to FLUOROS. It overlaps with my family vacation to Yellowstone this summer.

I got clearance to submit the paper about 2 weeks ago and I did so. I am waiting to hear back, hopefully soon.

I ended up spending some time on a QQQ-TOFMS during a trip to Colorado School of Mines back in early March. I am now pretty confident in the structure being linear. I could see a series of fragments that all appear to lead back to this structure when run on a QQQ-TOFMS. For example with the m/z 244 shown below I see the following fragments that all point back to the structure. I also see a 84.9? this is a CF₃O (not shown). I did similar work for the smaller and larger MW compounds but this is one compound I spent the most time on. I could not see how to get these masses with it being branched rather than linear.



Molecular Formula: C₄HF₇O₄
Monoisotopic Mass: 245.976306 Da
[M-H]⁻: 244.969029 Da



Molecular Formula: C₃F₇O₂
Monoisotopic Mass: 200.9792 Da

I had not heard of using method 537 for samples other than DW samples. If it were me I would not use it for any samples other than DW. As all the compounds covered under this method are anionic I would use a Waters Oasis WAX (weak anion exchange) SPE cartridge. Using the suggested polystyrenedivinylbenzene (SDVB) SPE column in surface water, wastewater and GW will accumulate lots of matrix interferences that would not work well at all. I believe this is the phase used in the Waters Oasis HLB column and we moved away from it for this reason. As I am not very familiar with method 537 I am unsure if the SPE cartridge can be substituted. I suspect not.

I was aware of the transition of DuPont to Chemours.
Take Care,
Mark

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From: Lam.H.Leung-1@chemours.com [<mailto:Lam.H.Leung-1@chemours.com>]
Sent: Monday, April 13, 2015 10:17 AM
To: Strynar, Mark
Subject: RE: Catching Up and Fluoros 2015

Hi Mark,

Sorry I did not get back to you sooner and I totally understand your situation on the poster proposition and for now I plan on presenting a poster on the subject on analytical with Robin Vestergren.

So have you made any progress getting clearance from your management regarding your manuscript and did the planned Orbitrap experiments get you more insight about the exact structure. As I mentioned before, the straight chain one can be a potential byproduct in one of our processes in Fayetteville and it'd be interesting to see what you find out (straight or branched).

Anyway, we've been hearing more and more about Method 537 these days from a number of our EPA contacts and are you aware that the folks at EPA are making this method the standard method (for not just drinking water but also for other water samples)?

By the way, I believe you are aware that we'll be transitioning to the new company and it'll be called Chemours such that all of our email addresses will be changed to @chemours instead of @dupont but rest assure, all emails sent to @dupont will be directed to the proper person for at least 2 years.

Hope all's well with you and thanks.

Best,
Lam

From: Strynar, Mark [<mailto:Strynar.Mark@epa.gov>]
Sent: Thursday, February 12, 2015 7:48 AM
To: LEUNG, LAM-WING H
Subject: RE: Catching Up and Fluoros 2015

Hi Lam,

I had a good Holiday break. I had some comments from my management as part of the clearance I have been working through. It has not yet been submitted.

In addition I have taken a new look at the structures in question. I had scheduled some time on an Orbitrap to try to get unique fragments but my colleagues instrument was down. I am pretty confident in the formula, but perhaps the structure is not simply linear. I am adding a section to the paper to include potential branching conformations.

Concerning the co-authorship on a poster, I will respectfully decline. Co-authorship of an item between a regulatory agency and a regulated company is something I try to avoid. Please understand. Mary Kaiser did this in the past and did a very good job. I am sure you will do so as well.

Mark

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From: Lam.H.Leung-1@chemours.com [<mailto:Lam.H.Leung-1@chemours.com>]
Sent: Monday, February 09, 2015 4:42 PM
To: Strynar, Mark
Subject: Catching Up and Fluoros 2015

Hi Mark,

Sorry I have not responded earlier to your note and I hope that you had a wonderful and relax holiday season. The last time I checked, the structure you indicated in your previous note, the straight chain one, probably make more sense as the ring structure is likely not stable. As far as I know and after some checking, it might be possible that the compound is a byproduct from one of our processes.

So have you submitted your manuscript as I recall you mentioning it almost getting clearance from your management?

One last item is that I understand that you are going to attend the Fluoros 2015 organized by Chris Higgins. Will you be interested in authorship with me on a poster with the emphasis on the "Dos and Don'ts in Analytical for PFAS analysis".

With your vast experience in PFAS analysis and my dealings with our contract labs, I believe it'd be a good topic to present. Please let me know your thoughts on this.

Best Regards,
Lam

From: Strynar, Mark [<mailto:Strynar.Mark@epa.gov>]

Sent: Monday, December 08, 2014 8:55 AM

To: LEUNG, LAM-WING H

Subject: RE: CAS #

Hi Lam. I had a good Thanksgiving and I hope you did. I am not involved with any groups in CA doing this kind of work. Sorry.

I went back and took a closer look at the suggested structures. I am still thinking this is what we have. One thing we cannot rule out is branching in the structure rather than straight chains. My chemist looked at the chemicals in the TSCA inventory reported at the Fayetteville site and thinks these compounds are possible from reactions of some of these starting materials found there.

Mark

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From: Lam.H.Leung-1@dupont.com [<mailto:Lam.H.Leung-1@dupont.com>]

Sent: Friday, December 05, 2014 11:13 AM

To: Strynar, Mark

Subject: RE: CAS #

Hi Mark,

Thank you for your note and I hope that you and your family had a great Thanksgiving.

As for the structure you mentioned below, I'm in the process of following up with our chemist about it and will let you know.

I came across this "report" recently and am wondering whether you are involved with this group or not? I can only speculate that they are using similar instrumentation as you do or an Orbitrap for identification. Perhaps you might have more insights.

Best,
Lam

From: Strynar, Mark [<mailto:Strynar.Mark@epa.gov>]

Sent: Monday, November 24, 2014 7:38 AM

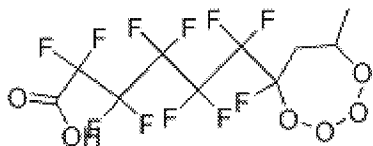
To: LEUNG, LAM-WING H

Subject: RE: CAS #

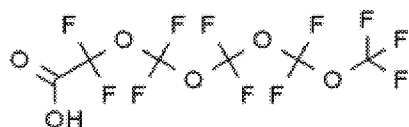
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Here is the CAS# of what I think we are seeing. I am taking a closer look this week but this is compound I believe it to be. It is clearly perfluorinated and there is a repeating CF₂O subunit due to fragments and offsets.
CAS # 39492-90-5

However I see it drawn this way



And this way



With the same CAS#. However I get a 200.9794 fragment that is a C₃F₇O₂ it appears. I do not see how I can get that fragment from the top compound.

Mark

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